Docket No.: UPAP0002-100

PATENT

Serial Number: 09/359,975 Filed: July 23, 1999

In the Claims:

Please cancel claims 115-121 and 141-165:

1-57. (canceled)

58. (Previously Presented) A composition comprising:

- a) a polynucleotide function enhancer; and
- b) A DNA molecule that comprises a DNA sequence that encodes an antigen from an intracellular pathogen; wherein
- i) said polynucleotide function enhancer is a compound having one of the following formulas:

$$Ar - R^1 - Q - R^2 - R^3$$

or

$$Ar - N - R^1 - R^2 - R^3$$

OI

$$R^4 - N - R^5 - R^6$$

or

$$R^4 - O - R^1 - R^7$$

wherein:

Ar is benzene, p-aminobenzene, m-aminobenzene, o-aminobenzene, substituted benzene, substituted p-aminobenzene, substituted m-aminobenzene, substituted o-aminobenzene, wherein the amino group in the aminobenzene compounds can be amino, $C_1 - C_5$ alkylamine, C_1 - C_5 , C_1 - C_5 dialkylamine and substitutions in substituted compounds are halogen, C_1 - C_5 alkylamine C_1 - C_5 alkoxy;

 R^1 is C=O:

R² is C₁-C₁₀ alkyl including branched alkyls;

R³ is hydrogen, amine, C₁-C₅ alkylamine, C₁-C₅, C₁-C₅ dialkylamine;

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R² + R³ can form a cyclic alkyl, a C₁-C₁₀ alkyl substituted cyclic alkyl, a cyclic aliphatic amine, a C1-C10 alkyl substituted cyclic aliphatic amine, a heterocycle, a C1-C10 alkyl substituted heterocycle including a C1-C10 alkyl N-substituted heterocycle;

R⁴ is Ar, R² or C₁-C₅ alkoxy, a cyclic alkyl, a C₁-C₁₀ alkyl substituted cyclic alkyl, a cyclic aliphatic amine, a C1-C10 alkyl substituted cyclic aliphatic amine, a heterocycle, a C1-C10 alkyl substituted heterocycle and a C1-C10 alkoxy substituted heterocycle including a C1-C10 alkyl N-substituted heterocycle;

 R^5 is C=NH:

R⁶ is Ar, R² or C₁-C₅ alkoxy, a cyclic alkyl, a C₁-C₁₀ alkyl substituted cyclic alkyl, a cyclic aliphatic amine, a C1-C10 alkyl substituted cyclic aliphatic amine, a heterocycle, a C1-C10 alkyl substituted heterocycle and a C1-C10 alkoxy substituted heterocycle including a C1-C10 alkyl N-substituted heterocycle; and,

R⁷ is Ar, R² or C₁-C₅ alkoxy, a cyclic alkyl, a C₁-C₁₀ alkyl substituted cyclic alkyl, a cyclic aliphatic amine, a C1-C10 alkyl substituted cyclic aliphatic amine, a heterocycle, a C1-C10 alkyl substituted heterocycle and a C1-C10 alkoxy substituted heterocycle including a C1-C₁₀ alkyl N-substituted heterocycle; and,

ii) said DNA sequence operatively linked to regulatory sequences which control the expression of said DNA sequence.

59. (Previously Presented) The composition of claim 58 wherein said DNA molecule is a plasmid.

60-62. (canceled)

63. (Previously Presented) The composition of claim 58 wherein said antigen is a viral antigen.

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64. (Previously Presented) The composition of claim 63 wherein said pathogen is a virus selected from the group consisting of: human immunodeficiency virus, HIV; Human T cell leukemia virus, HTLV; influenza virus; hepatitis A virus; hepatitis B virus; hepatitis C virus; human papilloma virus, HPV; Herpes simplex 1 virus, HSV1; Herpes simplex 2 virus, HSV2; Cytomegalovirus, CMV; Epstein-Barr virus, EBR; rhinovirus; and, coronavirus.

65-114. (canceled)

115-121. (canceled)

122. (Previously Presented) A composition according to claim 58, wherein said polynucleotide function enhancer is a compound having the formula $Ar - R^1 - O - R^2 - R^3$.

123. (Previously Presented) The composition of claim 122 wherein said DNA molecule is a plasmid.

124. (Previously Presented) The composition of claim 122 wherein said antigen is a viral antigen.

125. (Previously Presented) The composition of claim 124 wherein said pathogen is a virus selected from the group consisting of: human immunodeficiency virus, HIV; Human T cell leukemia virus, HTLV; influenza virus; hepatitis A virus; hepatitis B virus; hepatitis C virus; human papilloma virus, HPV; Herpes simplex 1 virus, HSV1; Herpes simplex 2 virus, HSV2; Cytomegalovirus, CMV; Epstein-Barr virus, EBR; rhinovirus; and, coronavirus.

126-165 (canceled)